

Young people in acute psychiatric crisis and their use of health care and social services.

A retrospective register-based cohort study

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Background

- Since 2000, the Department of Child and Adolescent Mental Health Services in Southern Jutland has offered Open Dialogue network meetings to youth in acute psychiatric crisis and their families.
- Data collected in these clinics were linked with national register data.

Open Dialogue

- Open Dialogue is a resource-oriented model of therapeutic intervention that promotes collaborative integrated care by means of network meetings between patient, family and social network members, and therapists and a non-directive psychotherapeutic stance

Open Dialogue

- Not manualised
- Following seven principles are prioritized:
 1. Immediate help
 2. A social network perspective
 3. Flexibility and mobility
 4. Responsibility
 5. Psychological continuity
 6. Tolerance of uncertainty
 7. Dialogism

Aim of the study

- To examine whether Open Dialogue for young patients (14-19 years) in acute psychiatric crisis reduced the utilisation of health care services and social services, compared to peers receiving usual psychiatric treatment.

Inclusion criteria

- Age 14-19 years
- Resident in 4 municipalities in Region of Southern Denmark
- Open Dialogue intervention
- March 2000 - December 2014.
- Mental health issues: suicidal behaviour, psychotic symptoms, and social isolation caused by depression or anxiety.

Methods

- An audit trail of the patients' medical records
- n=503
- Clinical data were linked with national social and health care registers.

Methods

- A retrospective cohort of patients ($n = 503$) from Southern Denmark Region
- A matched group ($n = 1509$) from two other regions during 2000-2015 using propensity scores.

Intervention

- Defined as at least one network meeting held outside the hospital within 14 days of the first contact with the psychiatric system.
- The number of network meetings ranged from 1-10.
- 3-4 meetings were the norm.

Control group

- Conventional acute psychiatric treatment consisted of a few outpatient consultations with rare referrals to hospital admission.
- A team that included a medical doctor and other professionals examined the individual patient.
- A matched comparison group that resembled the participants on relevant observed variables

Matching variables

- gender, age, calendar year of inclusion, psychiatric diagnoses (schizophrenia spectrum disorders: F20-F29; affective disorders: F30-F39; anxiety and related disorders; F40-F48; any: F00-F99), psychiatric history before inclusion (no. of hospitalisations, days hospitalised, psychiatric outpatient treatment, emergency psychiatric treatments and suicide attempts), number of general practitioner services used, education completed (primary school, high school), socio-economic status (in school, employed or not working: unemployment benefits/disability pension), social interventions (foster care placements, preventive measures), family type (core family, fusion household, single parent, living with partner/roommate, or in own single household), parent status (one or both missing in registers, one or both dead at inclusion), parents' diagnosis (binary indicators of at least one parent with: schizophrenia, affective disorders, anxiety, an indicator of at least one parent with previous suicide attempt registered, a count of parents' total number of different diagnosis registrations (FX-level), parents' substance abuse (a substance abuse score counting one point for each parent with redeemed N07BB prescriptions at the time of inclusion and for each parent registered with a F1X diagnosis before baseline), parents' use of general practitioner services, parents' highest education (elementary school; high school; short tertiary, tertiary, academic) and parents' unemployment status (one not working, both not working).

Time of inclusion

- For the intervention group, the time of inclusion (t_0) was the date of the first Open Dialogue treatment.
- For the comparison group, t_0 was the date of the first treatment contact, either an emergency department, inpatient, or outpatient contact.
- Follow-up period: minimum one year with 31.12. 2014 as end of follow-up unless death or emigration was recorded prior to this.

Primary outcome

- The patients' utilisation of psychiatric health services defined as total number of:
 - psychiatric hospitalisations
 - days of psychiatric hospitalisation
 - psychiatric outpatient treatments
 - emergency psychiatric treatments

Secondary outcomes

- The utilisation of general practitioner services
- Patients' utilisation of social services
- Educational status
- Employment status
- Suicide attempt
- The parents' utilisation of general practitioner services.

Results

- **Psychiatric hospitalisation:** no significant reduction in the number of contacts or treatment days.
- **Outpatient contacts:** 24 % higher rate was noted among participants receiving the Open Dialogue intervention at one year of follow-up (RR=1.24, CI: 1.07-1.44), but not at the subsequent follow-ups.

Emergency psychiatric treatments

- significantly lower for the Open Dialogue group.
- After one year a **79 % lower rate** of emergency psychiatric treatments (RR = 0.21, CI: 0.09-0.50) than the comparison group.
- This gradually declined to a **52 % reduction** at 10 years of follow-up (RR = 0.48, CI: 0.27-0.85)

General practitioner

A **10 % reduction** of general practitioner services was observed at 1 year of follow-up (RR = 0.90, CI: 0.82-0.99).

This increased to a **15 % reduction** at 10 years of follow-up (RR = 0.85, CI: 0.78-0.92).

General practitioner

- The absolute difference in rates was substantial equivalent to a total of **9,361 fewer contacts** to general practitioner among 503 patients for the measured period.
- We did not include a formal health economic analysis, but this reduction suggests substantial cost savings.

Suicidal behavior

Suicide attempts: no difference between the groups.

Frequency of suicide attempt: no sig. difference

Social and work-related outcomes

Unemployment: at 2 years of follow-up, a significant 26 % lower rate of unemployment (RR = 0.74, CI: 0.57-0.96)

- Similar reductions were found after 10 years (RR = 0.77, CI: 0.66-0.89).

Secondary education: 28% in the OD group vs. 25% controls, were found to obtain secondary education or higher

- Not significant

Conclusions

Adolescents receiving the Open Dialogue intervention had

- an increased utilisation of psychiatric outpatient treatments at one year of follow-up.
- Reduced frequency of emergency psychiatric treatment
- Reduced general practitioner services than matched peers throughout the 10-year observation period.
- After 2 years of follow-up, a significant 26 % lower rate of unemployment, that remained stable at 10 years follow up

Limitations

- Due to study design we can't make statements regarding causal associations.
- No internationally accepted fidelity criteria exist for Open Dialogue
- No available data on the level of fidelity to the local practices
- Intervention under investigation was brief and based on outpatient treatment
- Clinical data are potentially susceptible to local practices of diagnosing and record-keeping

Research group

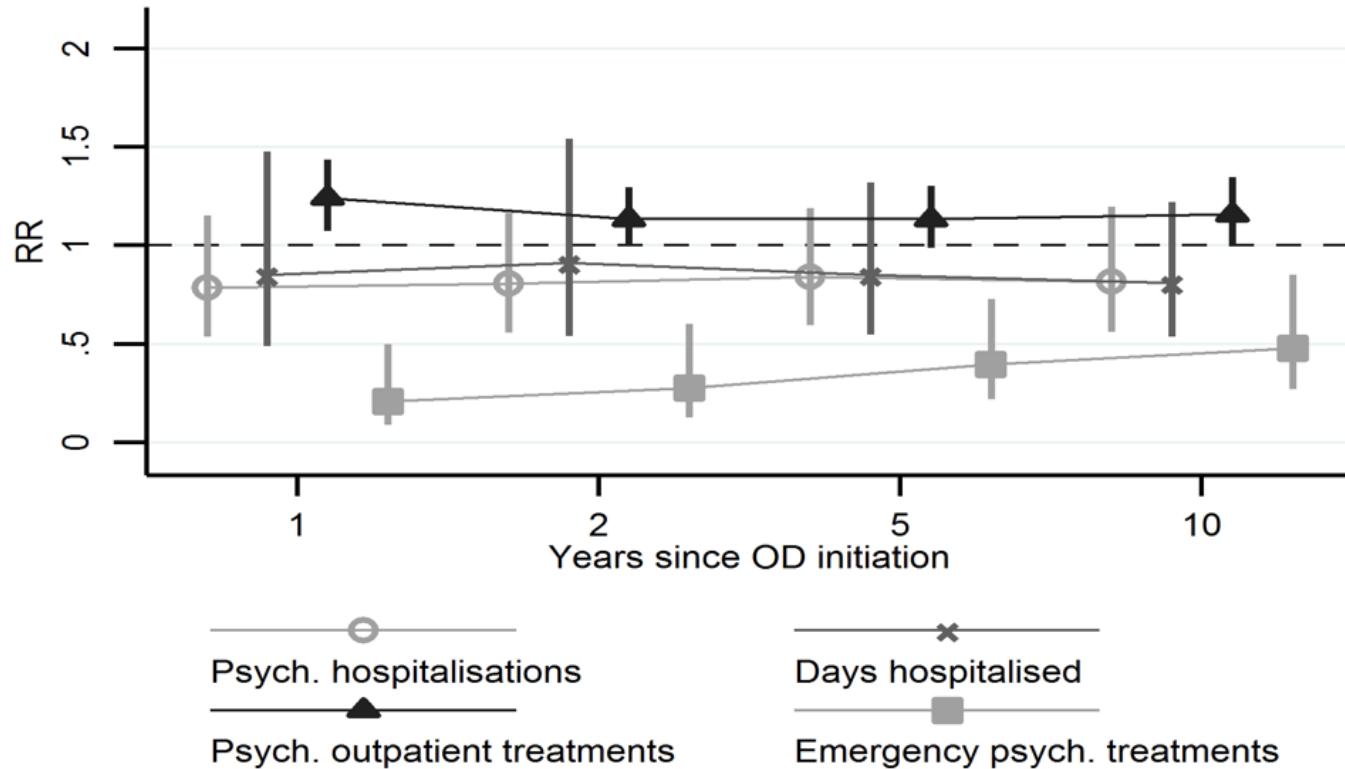
- **Niels Buus**, professor, University of Sydney and University of Southern Denmark
- **Elise Kragh Jacobsen**. MHS, Region of Southern Denmark
- **Anders Bo Bojesen**, MSc, Region of Southern Denmark
- **Aida Bikic**. PhD, Region of Southern Denmark, University of Southern Denmark
- **Klaus Müller-Nielsen**, MPH. The Department of Child and Adolescent Mental Health Services in Southern Jutland.
- **Jørgen Aagaard**, professor, Aalborg University
- **Annette Erlangsen**, PhD. Danish Research Institute for Suicide Prevention, Denmark; Department of Mental Health, Johns Hopkins Bloomberg School of Public Health, Maryland, USA; University of Southern Denmark, Odense, Denmark.

Thanks

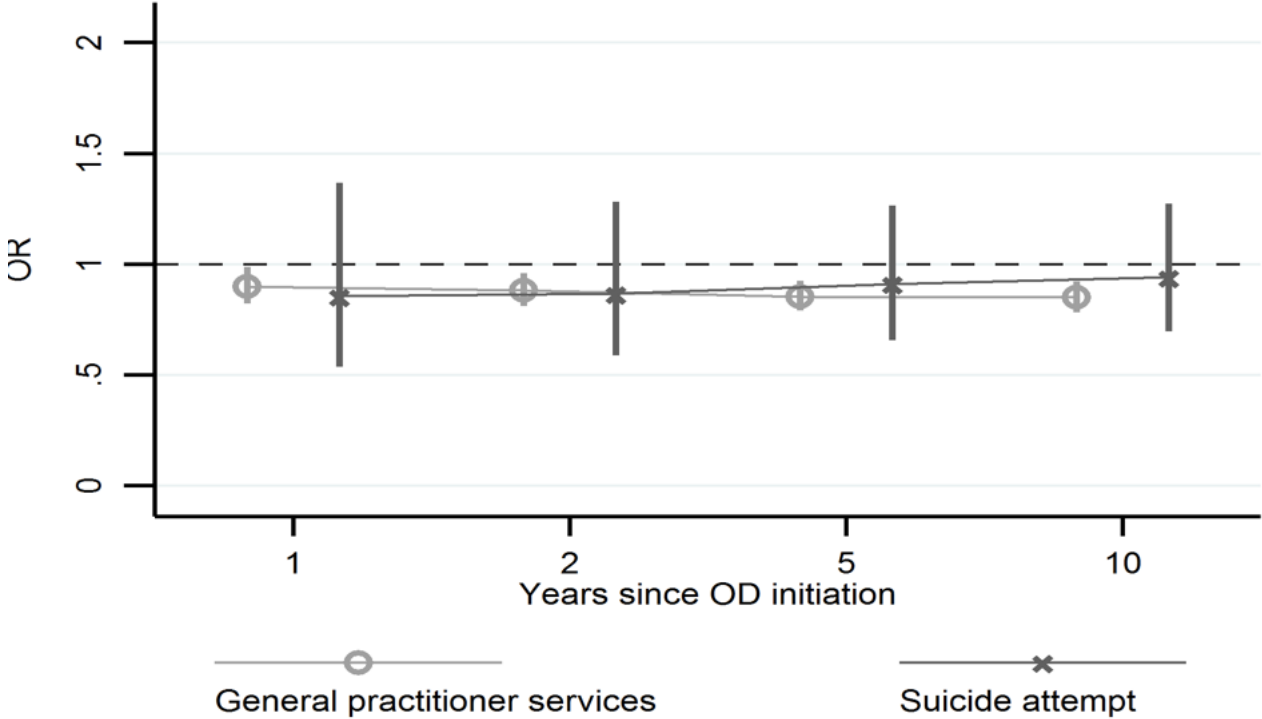
- Psychiatric Research Foundation of Region of Southern Denmark
- Helsefonden

Thank you for your attention!

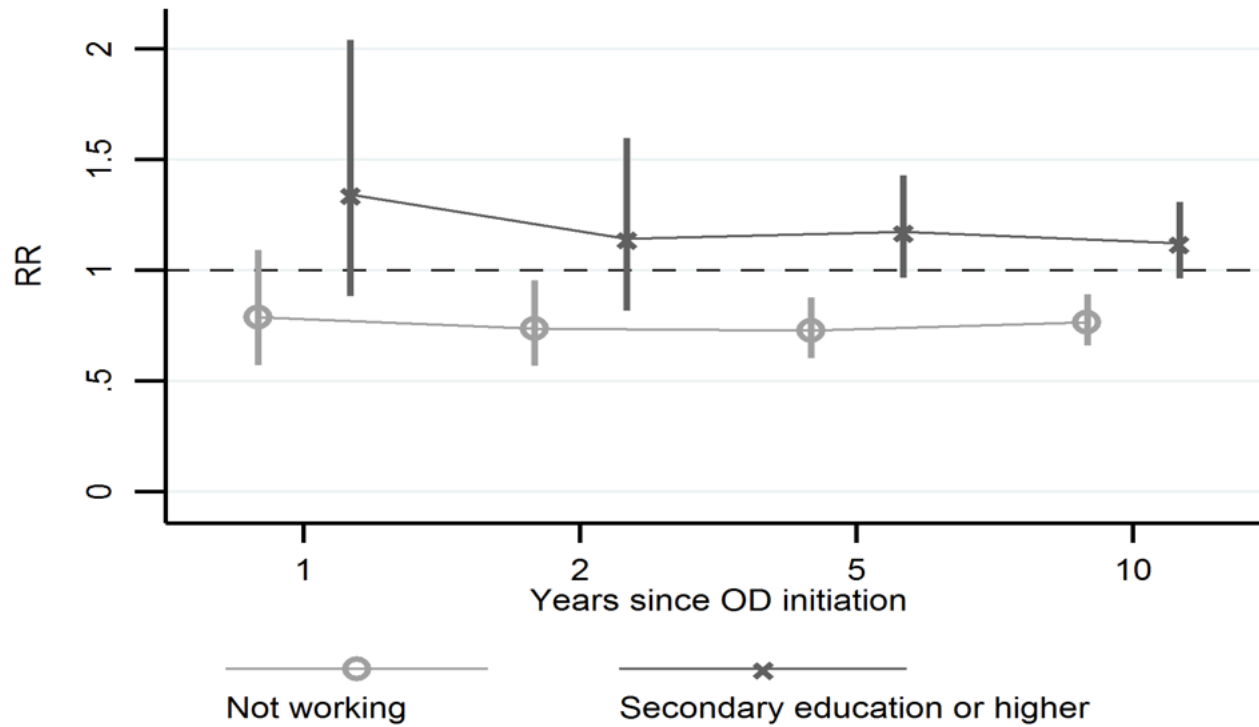
Utilisation of psychiatric health care services

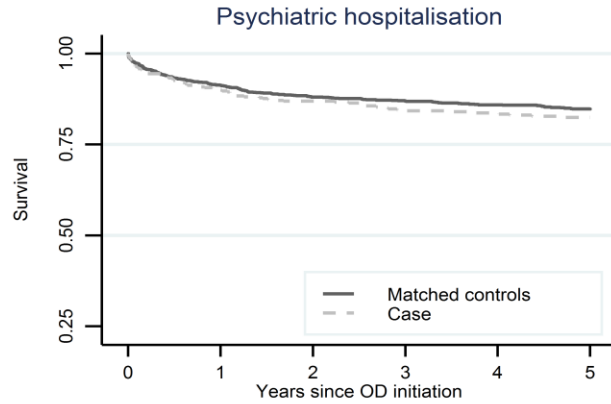


General practitioner services and suicide attempt



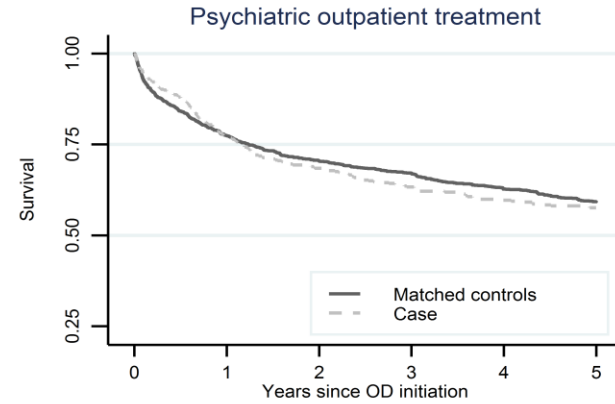
Work and education





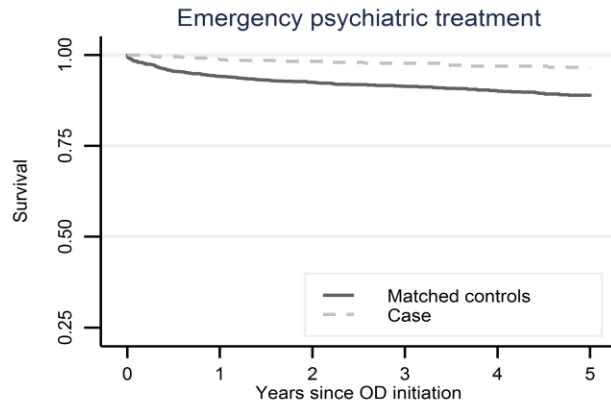
Number at risk

Controls	1358	1212	1053	968	872	795
Cases	460	396	350	309	279	258



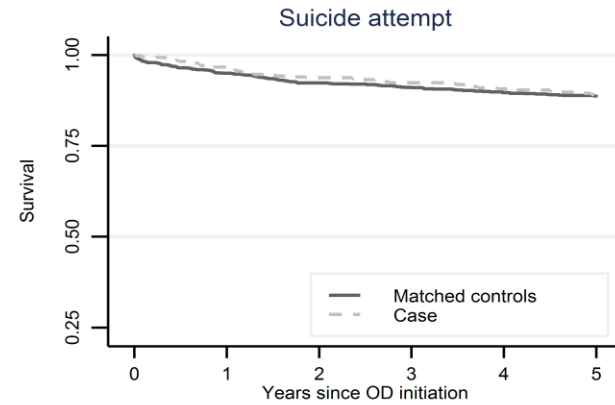
Number at risk

Controls	1358	1048	894	820	738	672
Cases	460	355	298	264	236	221



Number at risk

Controls	1358	1248	1104	1017	917	838
Cases	460	451	410	369	328	303



Number at risk

Controls	1358	1254	1102	1010	905	826
Cases	460	434	385	342	303	277